

EVALUATING THE FEASIBILITY OF EXPANDING RECYCLING IN THE SOUTHWEST US AND ITS IMPACT ON PUBLIC LANDS

Casey Gilson*, Program on the Environment, University of Washington
Site Supervisor: Hannah Johnson and Anna Wilson, Human Eco/Perennial Zero Waste Consulting
Faculty Advisor: Sam Kay, Department of Geography, University of Washington



@caseygilson490

BACKGROUND:

- Poor waste management can have negative impacts to humans and the natural environment
- The Southwest US lacks proper infrastructure to provide recycling services across the entire region
- Waste management services are provided less frequently to rural areas and public lands
- Perennial Zero Waste Consulting is collaborating with the US Forest Service to create a zero-waste management plan for National Forests of the Southwest Region 3

RESEARCH QUESTIONS: What are the advantages and barriers of expanding recycling initiatives in the Southwest US? How can these initiatives be utilized by public lands?

INTERNSHIP AND METHODS:

- I interned with Perennial Zero Waste Consulting
- I assessed waste data and performed waste audits in the Tonto National Forest (Figure 1)
- I created an interactive hub and spoke map to indicate where recycling facilities are located in relation to National Forests
- I conducted expert interviews and literature review regarding waste management in the Southwest



Figure 1. The sorting process of trash collected from a dumpster during a waste audit.

RESULTS:

- Barriers to expanding recycling initiatives has limited the opportunities for all stakeholders to participate in this sustainable waste management service

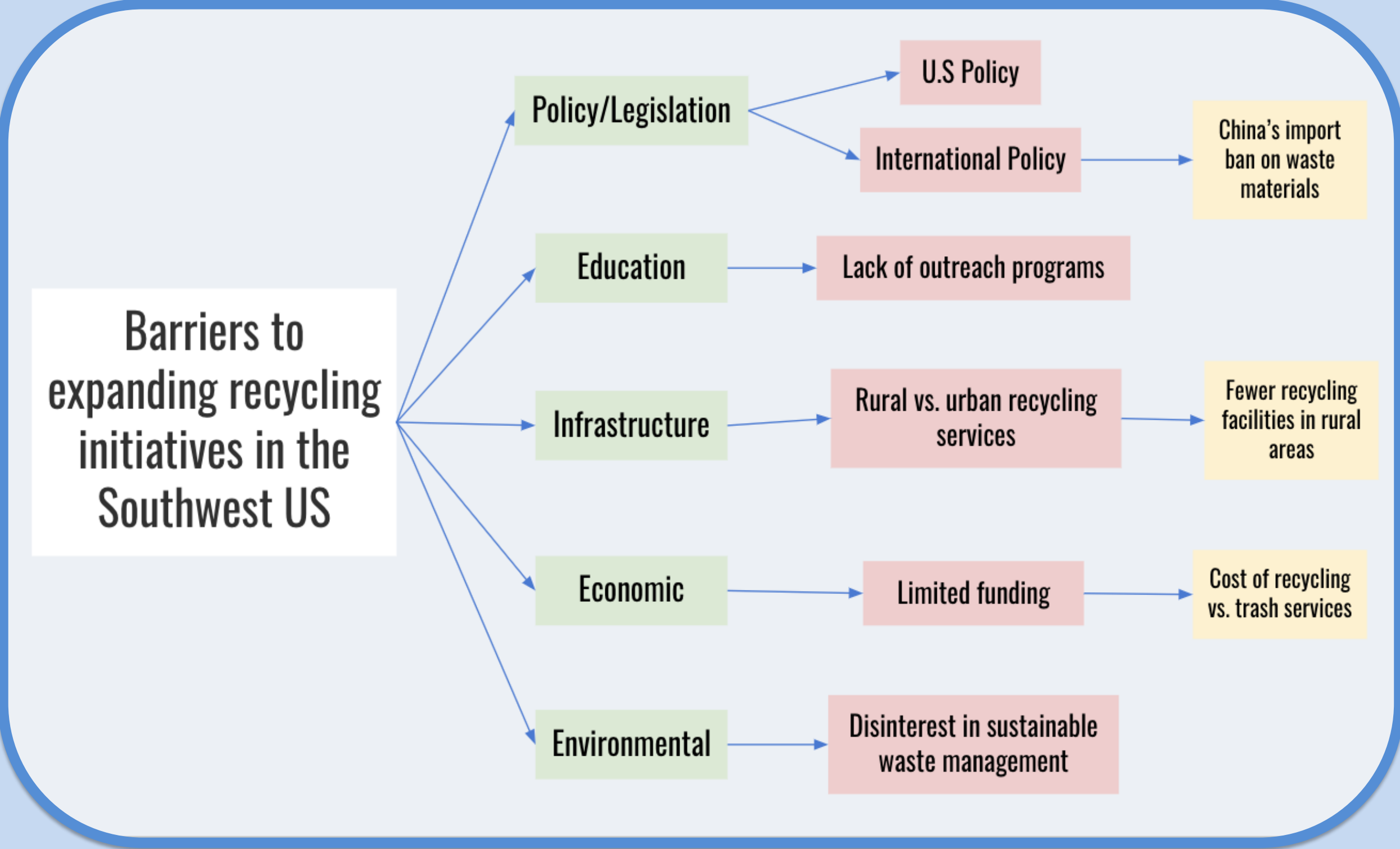


Figure 2. Flow chart illustrating the potential barriers to expanding recycling initiatives in the Southwest US region.

Overcoming the barriers:

- Increasing financial support from a variety of stakeholders – incentivize recycling
- Discussed in an interview, following successful initiatives from the past like the federal grant to the New Mexico Recycling Coalition
- Offering educational resources like infographics will inform producers on how to sort their trash
- Increase amount of recycling facilities and transfer stations

Advantages to expanding recycling initiatives:

- Improved recycling infrastructure would mitigate the environmental issues caused by burying materials in landfills
- The expansion would be supported by policy and regulation, which would also provide more opportunities for economic funding for recycling initiatives
- Improving education and outreach opportunities would encourage more environmentally conscious behavior from producers

Recycling Initiatives in National Forests:

- Increasing recycling programs will establish more recycling facilities and transfer stations, reducing the distance between recycling services and National Forests (Figure 3)
- Utilizing recycling services in National Forests will help preserve these public lands and reduce illegal dumping

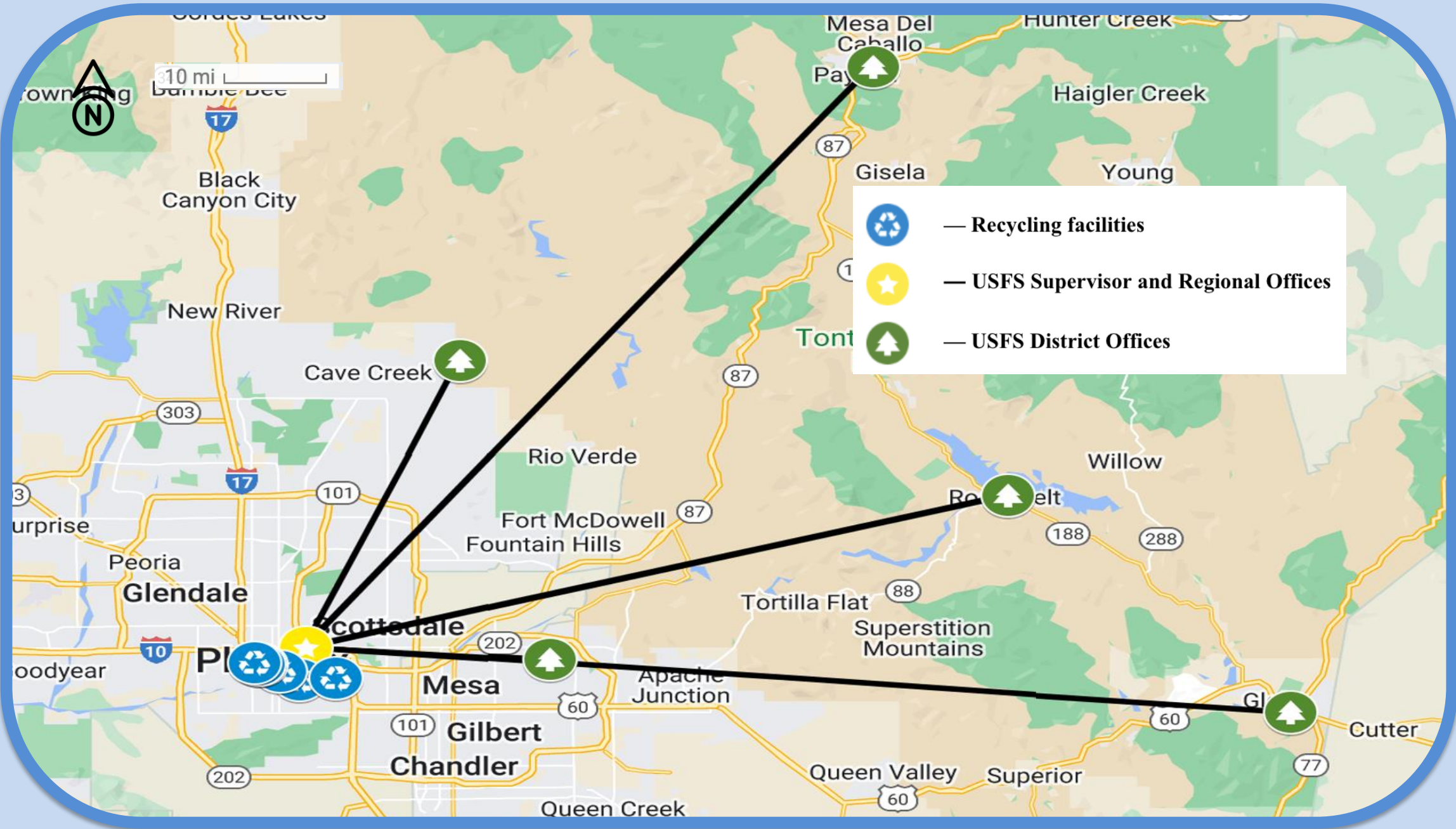


Figure 3. Hub and spoke map illustrating the distance between USFS offices and recycling facilities near Phoenix, AZ.

BROADER IMPLICATIONS:

- Since there are already recycling programs in the Southwest, recycling can be a transitional service towards more sustainable waste management services
- Establishing more facilities and transfer stations would lower the cost of recycling, making it more accessible
- Improved infrastructure processes in the Southwest can be utilized by other states, regions, and National Forests that are looking to improve recycling infrastructure



ACKNOWLEDGEMENTS:

I would like to thank my site supervisors Anna Wilson and Hannah Johnson, my faculty advisor Sam Kay, my friends and family, and my POE cohort for the constant support throughout my capstone experience!